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# Conference report: The 26th Annual Meeting of the German Mesolithic Workgroup

*Annabell Zander, Birgit Gehlen, Luc Amkreutz, Søren Andersen, Mathias Bjørnevad, Mirjam Briel, Chantal Conneller, Oliver Craig, Shannon Croft, Agnieszka Czekaj-Zastawny, Erwin Czesla, Michaela Divišová, Eileen Eckmeier, Jan Eigner, Berit Valentin Eriksen, Felicitas Faasch, Birgit Fischer, Charles French, Roderick Geerts, Klaus Gerken, Julia Goldhammer, Amy Gray Jones, Sonja Grimm, Daniel Groß, Sönke Hartz, Martin Heinen, Carl Heron, Daniela Hofmann, Maha Ismail-Weber, Theis Jensen, Jacek Kabaciński, Becky Knight, Andreas Kotula, Christiane Krahm, Sascha Krüger, Aimée Little, Harald Lübke, Alexandre Lucquin, Svea Mahlstedt, John Meadows, Ann-Katrin Meyer, Nicky Milner, Bethany Nash, Andy Needham, Marcel Niekus, Elisabeth Noack, Ester Oras, Jörg Orschiedt, Erik Brinch Petersen, Thomas Poelmann, Diederik Pomstra, Caroline Posch, Stefan Pratsch, Filip Prekop, Milan Řezáč, Thomas Richter, Harry Robson, Georg Roth, Charlotte Rowley, Ulrich Schmölcke, Nele Schneid, Werner Schön, Rick Schulting, Bjørn Smit, Mikkel Sørensen, Benjamin Spies, Harald Stäuble, Val Steele, Barry Taylor, Laura Thielen, Mara-Julia Weber, Markus Wild & Steffen Wolters*

**Abstract** – The 26th Annual Meeting of the German Mesolithic Workgroup took place in Wuppertal from 10-12 March 2017 and was organised and hosted by Annabell Zander (University of York) and Birgit Gehlen (CRC 806, University of Cologne). In sum, more than 70 academics, students and amateur archaeologists from 8 different countries attended this conference. The international programme consisted of 24 talks and 10 poster presentations which were held in English and German. The presentations ranged from international to regional themes concerning the Final Palaeolithic, Mesolithic and Early Neolithic.

**Key words** – Mesolithic; Final Palaeolithic; Early Neolithic; Westphalia

**Titel** – Bericht vom 26. Treffen der Arbeitsgemeinschaft Mesolithikum in Wuppertal

**Zusammenfassung** – Auf Einladung von Annabell Zander (Universität York) und Birgit Gehlen (SFB 806, Universität zu Köln) fand die 26. Jahrestagung der Arbeitsgemeinschaft Mesolithikum vom 10.-12. März 2017 in Wuppertal statt. Insgesamt nahmen mehr als 70 Wissenschaftler, Studierende und an der Mittelsteinzeit interessierte Amateurarchäologen aus acht verschiedenen Ländern teil. Das internationale Tagungsprogramm bestand aus 24 Vorträgen und 10 Posterpräsentationen, welche auf Englisch oder Deutsch gehalten worden. Die Vorträge behandelten sowohl internationale als auch regionale Thematiken rund um das Spätpaläolithikum, Mesolithikum und Frühneolithikum.

**Schlüsselwörter** – Mesolithikum; Spätpaläolithikum; Frühneolithikum; Westfalen

The 26th annual Mesolithic Conference was held in the Orangery in the Botanic Garden in Hardt Park, Wuppertal from 10-12 March 2017. The conference was organised and hosted by Annabell Zander M.A., PhD student at the University of York, and Dr. Birgit Gehlen, Postdoctoral Research Associate at the Collaborative Research Centre 806, Project D4, at the University of Cologne. The diverse programme included 24 talks and 10 poster presentations which were held throughout Friday and Saturday and which dealt with regional and international themes surrounding the Final Palaeolithic, Mesolithic and Early Neolithic. Talks and poster presentations were held in either English or German with a discussion followed in English. For the talks, each presenter was assigned a thirty-minute slot with 20 minutes presentation time and 10 minutes dedicated to questions and discussion.

A workshop entitled “How do we define the Mesolithic today?” took place Friday afternoon. This workshop dealt with a critical evaluation of

the division between the Palaeolithic, Mesolithic and Neolithic. One of the highlights of this conference was the guided tour with the Historic “Kaiserwagen” of the suspended railway through Wuppertal which took place Friday evening.

After the presentations on Saturday, Dr. Erich Claßen (LVR – Rhineland Regional Archaeological Association) and Priv.Do. Dr. Jörg Orschiedt (CEC for Archaeometry Mannheim) delivered a public talk on the region’s Stone Age points of interest, including the famous multi-period cave site Blätterhöhle in the city of Hagen (Westphalia), in preparation of the excursion. The excursion took place on Sunday and reflected the theme of the workshop from Friday afternoon. It started at the Blätterhöhle where the oldest human fossils in Westphalia have been found. The excursion then continued to the Monrepos Archaeological Research Centre and Museum for Human Behavioural Evolution in Neuwied.

Over 70 archaeologists from 8 different countries – Germany, the Benelux Countries,



**Fig. 1** Group photograph of the attendees of the 26th Mesolithic Conference in front of the venue in the Botanic Garden, Hardt Park, Wuppertal (Photograph: M. Koke).

Austria, Czech Republic, Britain, and Denmark – attended this international meeting (**Fig. 1**). The paper at hand is based on the abstracts of the research presented during the Mesolithic conference. The speakers mentioned in the texts are the authors of their respective abstracts. This paper therefore aims to give an insight into the diverse international programme of the conference which will be published in more detail in conference proceedings in the summer of 2018.

### **Opening and session 1: Final Palaeolithic and Early Mesolithic research I**

The Conference was officially opened on Friday 10 March 2017 by Dr. Erich Claßen from the Rhineland Regional Archaeological Association (LVR) and the conference organiser Annabell Zander. The morning session concentrated on Final Palaeolithic and Early Mesolithic research across North-western Europe and was chaired by Prof. Mikkel Sørensen.

Sascha Krüger, Thomas Poelmann and Markus Wild were the first to present their research on environment, fauna and technology of an Ahrensburgian site near Lake Itzstedt, Germany. According to Krüger, Poelmann and Wild, apart from Stellmoor (Kr. Stormarn/D), Ahrensburgian sites in the North of the Lowlands of Europe with excavated faunal remains are scarce. Especially in this particular region, the faunal Ahrensburgian can thus far be equated by the term Stellmoorian as the eponymous site is the only that yielded a suitable amount of faunal remains. To balance this disequilibrium, sites with Ahrensburgian finds associated with faunal remains are needed. Presented in this talk was the potential of such a possible counterweight: the site of Nahe LA11 (Kr. Segeberg/D).

Thomas Poelmann had surveyed a small elevation at the southern side of the angle between Lake Itzstedt and the small river Rönne from 1986 until 2016. On the upper hill slope he found an assemblage of more than 12,000 lithics that consists in particular of characteristic Ahrensburgian and Zonhoven points. Furthermore, the exact position



of these finds was recorded and it is possible to assign them to at least three concentrations on the elevation. In 2003 and 2004 an excavation was carried out by the Archaeological State Office Schleswig-Holstein where the associated wetland part of Nahe LA11 was partly scooped out rather coarsely with a mechanical digger. This excavation led to the discovery of faunal remains and a small number of lithics. Of particular interest were the finds of ca. 150 animal bones, most of them belonging to reindeer (*Rangifer tarandus*), a species typical of the Younger Dryas and its use typical for the Ahrensburgian culture (cf. BAALES, 1996, BRATLUND, 1996). This was confirmed by four  $^{14}\text{C}$ -dates obtained in the aftermath of the excavation (WEBER ET AL., 2011). The zooarchaeological analysis showed the presence of rich meat-bearing parts, which indicate the local processing of the animals and furthermore point to the hunting of them near Lake Itzstedt. Moreover, the small reindeer herd identified was composited with mostly young and medium-sized animals which is characteristic of a herd structure in winter season when bulls live separated from the main herd and do not stay in concurrence to females and juvenile animals. With regard to its occupation, the site can be compared to Stellmoor within the yearly cycle and thus sheds light on possible migration routes of reindeer at the end of the Younger Dryas.

Besides the analysis of the spatial patterning of lithic tools on the elevation, the faunal remains in the discard zone and a rare Ahrensburgian antler tool, the potential of the site lies in the chances for understanding the environmental conditions that early pioneers in the North had to face during the Lateglacial. The preserved organic sediments in the Rönne valley contain warped sequences that can help to understand exceptionally high-resolution developments. Furthermore, preliminary palynological investigations of these deposits confirmed the existence of sediments reflecting the transition from Allerød to Younger Dryas – a unique case in Northern Germany. Nevertheless, it must be stressed that the near-shore sediments bearing anthropogenic waste underwent a not yet well understood process that might have rearranged the deposits in these areas. Spatial analysis and presentation of the lithic remains from the hilly elevation, further excavations (connection between the shoreline archaeology and the discarded faunal remains) of the organic find-bearing sediments, and palaeoecological research is needed to fully grasp the site of Nahe LA11. (S.K., T.P. & M.W.)

The next presenter, Martin Heinen, focused his talk on a newly excavated Final Palaeolithic long blade assemblage from Dormagen-Nievenheim which was excavated in 2016. This site is located some 10 km south of Düsseldorf where Final Paleolithic settlement structures were discovered. The site is situated close to a late Pleistocene Rhine channel which was part of the braided river system. It must have carried water until the very early Holocene because the Palaeolithic finds were embedded in and covered by deposits of high flood loam. The latter was OSL-dated to about  $11500 \pm 900$  cal BP.

An area of 366 m<sup>2</sup> was uncovered with two artefact concentrations that lay in approximately 10 m distance from each other. In sum 2355 stone artefacts were found, most of them – more than 1700 – were found in the southern activity area (loc. 38). Both areas where burnt artefacts and bone fragments suggest fire places contained the same types of tools: points, backed bladelets, scrapers, burins and a significant number of blades with use-wear. The majority of the overall 138 tools were made of larger blades of good quality, especially scrapers and burins. The largest blade is 17 cm long. However, this blade is not complete.

The composition of the raw material is remarkable. 76% of the assemblage consists of Baltic flint, including 1.4% of red Helgoland flint. The distance between Nievenheim and Helgoland is almost exactly 350 km. This seems to be the most southern evidence for Helgoland flint in Europe so far. Besides the northern raw material, about 21% of the assemblage comprises of Meuse flint (Rijckholt type and Meuse Gravel) from distances of 40 – 80 km. A few artefacts are made of flint coming from the region of Aachen.

Based on typological criteria, Heinen suggests the site of Nievenheim belongs to the 'long blade' industry (LBI) at the end of the Late Palaeolithic. Particularly characteristic of this tradition is the combination of Zonhoven points with or without basal retouch and long and straight blades. Moreover, the site of Nievenheim was AMS-dated to the transition from Younger Dryas to Preboreal thereby confirming the proposed Final Palaeolithic character of the site. Therefore, the site dates exactly to the same period as the well-known sites 'Three Ways Wharf' in England and 'Belloy-sur-Somme' in France. (M.H.)

Erik Brinch Petersen talked about Mørke Enge (dark meadows), an excavated fishing



area from the Preboreal of Sjælland in Denmark. Fiskepladser (fishing sites/areas) is a term used since 1959 to describe areas in bogs from where several bone leisters have been collected, but no lithics and no faunal remains. Such finds derive from the middle of former lakes. Some leisters have been recovered by peat cutting, but most have been and continue to be collected on the surface by non-professionals.

Therefore, in the 1960s Dr. Sv. Jørgensen, palynologist at the National Museum in Copenhagen, went peat-cutting himself in Mørke Enge, hereby recording *in situ* some ten fine barbed leisters and a few other pieces dated to the Preboreal by way of pollen statistics and <sup>14</sup>C. These recorded “dark meadows” were the focus of Petersen’s talk. (E.B.P)

### Poster presentations

The morning session was followed by poster presentations. The following section is dedicated to the abstracts of these various posters.

Birgit Fischer, Christiane Krahn and Harald Stäuble presented their research on the oldest LBK in northwest Saxony. They reported on the newly discovered and excavated settlement of Groitzsch (GRZ-75) which can be (at least partially) dated to the oldest as well as to the so-called ‘Flomborn’ phase of the early Neolithic LBK culture (BLASCHTA ET AL. 2016). Such was unknown in Saxony when Hans Quitta from the University in Leipzig defined the oldest phase of the LBK in Europe during the late 1950s, and was observed only on large-scale excavations during the last couple of years. They presented some preliminary data from this work in progress on this important phase in prehistory for the Mesolithic-Neolithic transition.

The site is situated on a plateau (140 m a.s.l.) between the rivers Weiße Elster and Schnauder, some 30 km south of Leipzig. In 2014 Blaschta and Stäuble excavated about 35,000 m<sup>2</sup> in an area named “Kaltel Feld”, located in the southern fringe of the city of Groitzsch. While no archaeological sites were previously known, recent excavations recovered more than 1000 prehistoric features. Apart from a few Late Bronze Age structures, the majority is attributed to the LBK culture. Traces of about 40 building structures are accompanied by many of the typical features of the time: mainly long pits parallel to the houses as well as round and oval ones.

The amount of excavated material is enormous: more than 50,000 sherds of pottery, hundreds of grinding stones and stone axes, as well as ca. 30,000 silex artefacts. The site appears to be the richest excavated during recent decades in Saxony. According to typological criteria of ceramics (Christiane Krahn) as well as of the houses (Harald Stäuble) the excavated part of the settlement – which must have been much larger in extent – was built starting in the oldest up to the middle phase of the LBK (continuously?). A late LBK phase might be represented as well.

The LBK finds spread over the entire recent geological sequence (Christian Tinapp) which starts with a basal moraine attributed to the Elsterian glaciation under a residuum of eroded glacial loams from the Saalian glaciation. The following 1 m of loess deposited during the Weichselian is covered by a luvisol which developed during the Holocene.

99% of the silex artefacts are of local origin, meaning from below the settlement and originating from the Elsterian and Saalian deposits. The vast majority of the raw material can be defined as Baltic flint. The raw material for the handful of quartzite artefacts probably originates from the moraine as well. It is only for the 5 flakes and blades made of “Gnandsteiner Bandjaspis” for which transportation over a distance of ca. 20 km southeast from the site can be suggested.

The silex artefacts belong to the normal spectrum of LBK tool assemblages, consisting mainly of endscrapers, borers, lateral and end retouches, with regular blades. Many cores show opportunistic exploitation while only few well-prepared blade cores were recovered. The almost entire absence of tablets and the small number of crested blades can be attributed to the small size of raw material nodules available.

For the first time in a northwest Saxonian LBK context the presence of the typological forms of trapeze (21 pieces), traverse arrowheads (18) and *mèches de forêt* (6) can be shown. These originally late Mesolithic tool types (trapeze, *mèche de forêt*) are unknown from the large-scale settlements of Eythra, Zwenkau-Hardt or Droßdorf, despite the presence of the oldest LBK in some cases. These sites delivered considerably smaller quantities in any find category despite the large number of household units. At Groitzsch, however, the large quantity of not only silex, but also ceramics, adzes, millstones etc. appears to be in a more appropriate proportion to the number of houses recovered. Together with the presence of Mesolithic tool forms, the settlement of Groitzsch (GRZ-75) is

unique for the Saxonian early Neolithic. (B.F., C.K. & H.S.) (B.G., N.S. & G.R.)

The next poster was presented by Birgit Gehlen, Klaus Gerken, Werner Schön and Eileen Eckmeier on Mesolithic pits in Germany. This poster was inspired by the conference „*Creuser au Mésolithique / Digging in the Mesolithic*“ in Châlon-en-Champagne in March 2016, when the authors started a compilation of Mesolithic pits in Germany. Although it is still incomplete, some statements can already be made. Nearly 80% of the single pits known so far come from settlement contexts. The majority was found in sandy soils or flood loams. Although features are known from the Early and the Final Mesolithic, the pits mainly derive from the Middle and the Late Mesolithic. The most intriguing features are the accumulations of small pits with up to 390 features, discovered in the last decades in sandy soils in Northern and Eastern Germany, and the dating of the oldest „*Schlitzgruben*“ into the Late Mesolithic (GERKEN, 2016; GEHLEN ET AL., 2017; ECKMEIER ET AL., 2017). (B.G., K.G., W.S. & E.E.)

Birgit Gehlen, Nele Schneid and Georg Roth presented a new way of multivariate analysis to relate microlith type spectra to chronology. Microlith types are important for relative dating of Mesolithic assemblages as well as for assigning them to cultural traditions. This is especially important for assessing assemblages from surface collections and old excavations. Their data set comprises of 38 radiocarbon-dated microlith assemblages from Germany and the Benelux region dating to the Early Mesolithic and the early Middle Mesolithic (German terminology; 9000 to 7800 calBC, i.e. later Pre-boreal to early middle Boreal) as well as two radiometrically undated assemblages. Only the dated assemblages were submitted to canonical correspondence analysis setting the  $^{14}\text{C}$  -age as the covariable. By using the established canonical relation inversely, it was possible to estimate the  $^{14}\text{C}$  -age for the two radiometrically undated assemblages which to the best of our knowledge represents a new dating approach of Mesolithic microlithic assemblages. Besides the canonical chronological ordering of the assemblages, the CCA triplot also shows interesting features related to geographical regions and cultural traditions which require further investigations. This approach used the statistical programming software 'R' in combination with R-package *vegan* and its functions *cca()* and *calibrate.cca()*.

The next poster introduced research by Sonja Grimm, Berit Valentin Eriksen, Daniel Groß, Sönke Hartz, Harald Lübke, John Meadows, Ulrich Schmölcke and Mara-Julia Weber on transitions and transformations of complex foragers in Northern Europe. A collaborative research centre to study „*Scales of Transformation: Human-environmental interaction in prehistoric and archaic societies*“ (CRC 1266) was installed at the Christian Albrechts University Kiel in 2016, funded with money granted by the DFG (*Deutsche Forschungsgemeinschaft*). Within focus 2 „*Transformations of socio-economic formations*“ of this CRC, the cluster B aims to explore the developments in complex forager societies. Two projects form this cluster: B1 „*Pioneers of the North: Transitions and transformations in Northern Europe evidenced by high-resolution datasets (ca. 15000 – 9500 BCE)*“ and B2 „*Transitions of specialised foragers (ca. 9500 – 5000 BCE)*“. Both these projects are hosted at the Centre for Baltic and Scandinavian Archaeology (ZBSA) in Schleswig.

The poster presented the research questions and goals of these projects for the first four years of the CRC 1266 and their perspectives beyond this period as well as the collaborative efforts of B1 and B2 with each other and with other projects of the CRC. They believe that, in particular, the different approaches of B1 focusing on people on the move and B2 focusing on people organising within a given territory will allow a fruitful symbiosis of these two projects beyond the dichotomy of Final Palaeolithic and Mesolithic research. (S.G., B.V.E., D.G., S.H., H.L., J.M., U.S. & M.-J. W.)

Theis Jensen presented an overview of his new PhD project which focuses on the application of Zooarchaeology by Mass Spectrometry (ZooMS) for species identification performed on Stone Age bone tools and fragments from southern Scandinavia and Northern Germany. Preserved organic material from the Late Glacial and the Early Holocene in southern Scandinavia is scarce. So scarce in fact that faunal assemblages from this period cannot conclusively demonstrate species present at the time. Artefacts made of animal bone, however, are preserved, often in the form of bone points lost during hunting in the newly formed lakes just prior to the last Ice Age. (T.J.)

The poster by Andy Needham, Aimée Little, Diederik Pomstra and Charlotte Rowley explored bead working at Star Carr through the application of actualistic experimentation. Star Carr is an Early Mesolithic site located on the southern shore of Palaeolake Flixton, North Yorkshire, and is perhaps the most famous Mesolithic site in the UK. During Clark's initial excavations, 1949-1951, 23 shale beads were discovered (Clark, 2009 [1954]), a number fairly resistant to change despite several further phases of excavation at the site both in wetland and dryland contexts across the 1980s and 2000s. The poster presented the first results of new analysis of the beads, detailing the actualistic experimental work results and microscopic analysis undertaken, using the data generated to contribute to the understanding of their production and life history. They further explored the relationship to the coastline of NE England this raw material infers. The poster also contrasted the Star Carr finds with the Early Mesolithic shale bead making workshop at Nab Head, Pembrokeshire, Wales, where over 500 shale beads were discovered alongside heavily utilised *mèche de forêt* stone tools (NASH, 2012). Drawing from the comparison of these assemblages within their specific contexts, Needham *et al.* go on to make some tentative inferences about Early Mesolithic bead making and using strategies in the UK. (A.N., A.L., D.P. & C.R.)

Another poster by Andy Needham, Barry Taylor and Amy Gray Jones discussed an engraved Ochre Pebble from Flixton School House, located in the Vale of Pickering, close to Star Carr. This poster presented a contribution to the understanding of ochre working in the British Mesolithic. Flixton School House Farm (FSH) is a Mesolithic site located on the southern shore of Palaeolake Flixton, North Yorkshire, with evidence of an early to late Mesolithic lithic assemblage and an extensive pit with associated ephemeral posts (TAYLOR & GRAY JONES, 2009). During the 2009 field season a red, mineral rich and roughly triangular pebble was discovered with ca. 30 anthropogenic grooves across its surface. Preliminary microscopic analysis was presented, exploring the nature of the raw material, mode of production of both the wear and striation and the possible uses of residues resulting from their production. The object was considered within its site setting, as well as offering a new date for the site. NEEDHAM ET AL. further explored the object within its local setting of Lake Flixton and how it related to ochre finds from other nearby

sites, notably Star Carr and Seamer Carr, both of which evidence ochre working traces, though of a different kind, and its national context, where it was compared with other worked Mesolithic ochres from Stainton West and Mussleburgh. Taken together, inferences were made about the ochre working strategies within Mesolithic Britain and how they changed at different sites across time. (A.N., B.T. & A.G.J.)

Furthermore, a poster by Charlotte Rowley, Annabell Zander, Bethany Nash, Andy Needham, Shannon Croft, Becky Knight, Chantal Conneller, Charles French, Aimée Little, Barry Taylor and Nicky Milner presented the results of recent excavations at Flixton Island II, another site which is located close to Star Carr and Flixton School House Farm in the Vale of Pickering. The excavations revealed a significant Early Mesolithic lithic scatter on the dryland area with little preservation of associated organic remains and no identifiable features or structures. Final Palaeolithic material was located in the deeper deposits further into the wetland area, with associated horse and other faunal remains. A programme of geoarchaeological testing was implemented to complement the assemblage analyses with an aim of identifying activity areas and human interactions on site, if this were to prove viable.

Due to the organic preservation in the wetland area, the site of Flixton Island II allows a unique insight into the Pleistocene-Holocene transition. An assemblage of horse remains was recovered from the long blade phase of the site in association with observable hoofprints in the sediments. The presence of horse remains confirms the proposed Lateglacial setting of the Long Blade Industry (LBI) in North-western Europe. However, besides the horse remains, several red deer remains in association with the long blade phase were also uncovered from the wetland site. This may indicate an early re-forestation of the Vale of Pickering during the late Pleistocene/early Holocene interface. (C.R., A.Z., B.N., A.N., S.C., B.K., C.C., C.F., A.L., B.T. & N.M.)

Marcel Niekus and Roderick Geerts discussed some preliminary results of a large-scale excavation of Mesolithic sites along the Reevediep near Kampen, the Netherlands (Geerts *et al.* 2016). In 2015 dozens of trial trenches were excavated, situated to the south of the City of Kampen, as a consequence of the planned construction of



a flood channel by Isala Delta for the 'Room for the River project'. In total 12 sites, five of which date to the Stone Age (predominantly Mesolithic), were discovered. One of these, labelled 'site 9', was excavated in 2016 following an extensive coring campaign designed to identify high density and low density scatters. Over an area of approximately 10,000 m<sup>2</sup> roughly 800 Mesolithic hearth-pits were found, some occurring in spatial arrangements such as triangular configurations. Among the six excavated flint scatters there is one that probably dates to the Late Preboreal, i.e. the transitional phase between the Late Palaeolithic and Early Mesolithic, as well as possibly a Late Mesolithic/Early Swifterbant site. Two large scatters were excavated completely. The point assemblage of one of these is dominated by Middle Mesolithic surface-retouched points (*feuilles de gui*). This site represents one of the most northern occurrences of the Rhine-Meuse-Scheldt Mesolithic. Based on the occurrence of narrow trapezes the second scatter can be dated to the Late Mesolithic. During the excavation, a structure consisting of six postholes arranged in a roughly circular (or hexagonal) pattern, and a seventh posthole at its centre, was discovered. Inside the ring of postholes a dense concentration of mainly flint artefacts is present. This site is the best example of a Mesolithic dwelling-structure known so far in the Netherlands. The alleged dwelling measures at least 4 m in diameter. A possible outside surface hearth is present to the southeast of its supposed entrance. (M.N. & R.G.)

Caroline Posch offered new approaches for an "old landscape", namely the Kleinwalsertal, a region in Western Austria which features numerous little-known archaeological sites in the Northern Alps. With a total of more than 60 sites of various sizes and functions, dating from the Mesolithic to the late Neolithic, it embodies a rich kaleidoscope of a very interesting early Holocene landscape. However, most of these sites and artefacts remain mostly unpublished and/or unexamined to this day. Therefore, it is the aim within this project to study the various find spots and stone artefacts of the valley through an integrated methodological approach.

This methodological approach includes on the one hand typological and morphotechnological studies of the stone artefacts, regarding their *chaîne opératoire*, production characteristics and an assignment of the microliths to a typological framework. Furthermore, intra-site analysis

of the four excavated sites of the region (rock shelter Schneiderküren Alpe, open air sites Egg-Schwarzwasser and Bärämähder and the mining site Feuersteinmähder) will be conducted concerning their spatial organisation through the examination of the flint scatters, as well as through refitting of the available blades, flakes and cores. The third major aspect revolves around the early Holocene land use of the area, with analysis regarding the connection between the locally available resources and the sites as well as through a hypothetical model of mobility patterns through the usage of GIS-based calculation such as e.g. foraging ranges and least cost paths.

The syntheses of these studies aims to create basic data regarding the technological characteristics in the production of stone tools and the mobility and subsistence strategies within this particular alpine landscape. Its results will hopefully aid further studies regarding the Stone Ages in adjacent areas of the Northern Alpine region. For the Alps were neither then nor today an unsurmountable barrier, but rather a region of transition and cultural contacts. (C.P.)

## Session 2: Final Palaeolithic and Early Mesolithic research II

After these poster presentations, the second session on the Final Palaeolithic and Early Mesolithic was chaired by Dr. Martin Street. The first presenter was Stefan Pratsch talking about Final Palaeolithic finds from the Trebbin area (Abstract translated by B. Gehlen).

The town of Trebbin is located around 40 km southwest of Berlin. The presentation dealt with the Late Palaeolithic surface finds, which have been collected by B. Fischer, O. Ochotzki and S. Pratsch over the last 20 years. Examples from four Late Palaeolithic sites (Federmesser Groups and Ahrensburgian) were discussed.

Additionally, Mesolithic and Early Neolithic artefacts were discovered at most sites along the River Nuthe. Furthermore, Neolithic adzes and one t-shaped antler axe as single finds have been collected. Concerning the typology of the microliths, it is remarkable that elongated triangles are rare. On the other hand, these forms are dominant on the larger sites of Jühnsdorf 8 and Jühnsdorf-Lindenberg and have been the key microlith type for the so-called "Jühnsdorfer Gruppe".

During further research all detected Stone Age finds will be examined, including the

artefacts from a field survey conducted in 2007/08 on grounds of the "WRRL" (*Europäische Wasserrechtsrichtlinie*). Furthermore, bones from aurochs will be examined which derive from excavations during the time of the German Democratic Republic. The famous site of Schlaatz close to Potsdam is located only some 20 km northwest of Trebbin.

The find of a t-shaped antler axe in the centre of Trebbin from sediments 5 m deep shows that material from this context is well-preserved. The presented faunal remains should be dated as soon as possible to promote the scientific research in this region (PRATSCH, 2016). (S.P.)

Jan Eigner, Filip Prekop, Michaela Divišová and Milan Řezáč reported on preliminary results from a rescue excavation of the Late Palaeolithic and Mesolithic site Tašovice 2 (Western Bohemia, Czech Republic). According to EIGNER ET AL. the upper watershed of the Ohře River, which flows from Germany (County Bavaria) is a territory rich in Mesolithic settlement. From the 1940s to the 1970s, the vicinity of Karlovy Vary city was targeted by surface prospections and excavations by German (H. Schroller) and Czech archaeologists (mainly L. Hájek, F. Prošek, S. Vencl). The Tašovice cadastre comprises of several sites, the most important being Tašovice 1 with about 4000 pieces of predominantly Mesolithic lithic artefacts (in preparation for publication). Tašovice 2 site represents a site which was repeatedly occupied and situated on a low terrace above the Ohře River, known from the 1950s. Between 2015–2016, rescue excavations took place there directed by the Czech National Heritage Institute (F. Prekop and J. Eigner). During this excavation, a cultural layer with numerous artefacts was identified. The local stratigraphy, however, had been influenced by post-depositional processes.

Two curved-backed points and some debitage made of erratic flint belong to the Late Palaeolithic settlement. The most numerous Mesolithic collection from Bohemian territory was acquired in Tašovice 2, numbering about 9000 lithic artefacts, including microliths. They are mostly made of local and regional raw materials (limnic silicites, quartzites) though Bavarian and Saxo-Thuringian materials are also present. Although the techno- typological analysis of the assemblage has just begun, we have already evidence of a high amount of microliths, linked to the presence of tens of microburins. Typologically, most common are triangles (several tens of isosceles and elongated

pieces), trapezes (mostly small and asymmetric), truncated points, Tardenoisian points and other types. According to the chronology in South and Southeast Germany, the site dates to the Early Mesolithic (probably Beuronien B and C?). This has been corroborated by radiocarbon dates from two burnt hazelnut-shells. Some trapezes indicate the presence of a Late Mesolithic settlement. Tool typology, on the other hand, is devoid of most typical tools (with the exception of scrapers) and laterally retouched blanks. The function of the site (repeatedly occupied hunting or fishing site?) should become clear after traceological analysis of the acquired microliths. Co-financed by Grant Agency of Charles University (project number 200216). (J.E., F.P., M.D. & M.R.)

### Session 3: The use of fire in the Mesolithic

The next session centred on the use of fire in the Mesolithic and was chaired by Dr. Sonja Grimm. The first paper by Harry Robson, Ester Oras, Sönke Hartz, Jacek Kabaciński, Alexandre Lucquin, Val Steele, Søren Andersen, Laura Thielen, Andreas Kotula, Agnieszka Czekaj-Zastawny, Oliver Craig and Carl Heron aimed to "illuminate" the prehistory of Northern Europe through lipid residue analysis of putative oil lamps. Organic residue analysis has been widely applied to study the preparation of foods in prehistoric contexts. In this paper the authors consider its wider application to other commodities, including fulfilling the need for illumination. In Northern Europe, a range of shallow oblong bowls first appear in the Eastern Baltic around ca. 5100 cal BC, along with the earliest ceramic cooking pots. Similar, shaped vessels are found a few centuries later in the Western Baltic also with the earliest ceramic horizons of the Late Mesolithic Ertebølle culture. Whilst various interpretations have been proposed for these vessels, it has been unclear what function they provided to these hunter-gatherer communities.

In 1935, Therkel Mathiassen suggested that oil from seal or whale was probably the most likely fuel. Seventy-eight years later this hypothesis was confirmed by HERON ET AL. (2013). Building on this work, Robson et al. presented the results of organic residue analysis conducted on a large collection of these vessels from 12 coastal and inland archaeological sites throughout the circum-Baltic region. Their organic contents were determined using a combination of bulk carbon and nitrogen

stable isotope analysis (EA-IRMS), molecular characterisation of free or bounded lipid extracts by gas chromatography-mass spectrometry (GC-MS), and compound-specific carbon stable isotope analysis by gas chromatography-combustion-isotope ratio mass spectrometry (GC-C-IRMS). Intriguingly, the results demonstrate that oils from both freshwater and marine fish made up the bulk of the residues, consistent with their use as oil lamps. (H.R., E.O., S.H., J.K., A.L., V.S., S.A., L.T., A.K., A.C.-Z., O.C. & C.H.)

Next, Erwin Cziesla introduced new results from the well-known Mesolithic site Jühnsdorf 8 south of Berlin in Brandenburg. The extensive site which covered an area of at least 3 ha was discovered in the 1930s. In connection with the building of the Motorway A-10, H.W.A Dürr excavated a fireplace and 27 soil features in 1936 and 1939. A short report was published by Dürr himself (DÜRR, 1955) which indicated that the features were "*hut floor plans*". The detailed report was first produced by Bernhard Gramsch, and although he never saw the features himself, the report largely follows the interpretation of the excavator (GRAMSCH, 1976). This interpretation of a small Mesolithic hut village remained so long accepted until Raymond R. Newell, at the 2nd International Conference "*Mesolithic in Europe*" showed that all such features are in fact wind-thrown "*treefalls*" (NEWELL, 1981).

An opportunity to re-evaluate these features arose with the widening of the Motorway A-10, south of Berlin. In 1992, therefore, a large section of nearly 6 km running parallel to the Motorway was prospected using sieve-hole test pits (GRAMSCH & PRATSCH, 1992). In approximately the same area as the Dürr-excavations one of at least 4 – 5 Mesolithic find concentrations proved to be particularly worthwhile for further examinations. From the beginning of February until the end of June 1993, excavations and test pitting was carried out parallel to the Motorway, as well as in the area of a redirected agricultural path. In sum about 5000 m<sup>2</sup> were examined, with approximately 265.5 m<sup>2</sup> sieved systematically in quadrants, reaching a depth of at least 1.2 m under the upper edge of the plow-ground. The results of the excavations from "*Jühnsdorf 8*" were presented at an international conference in the same year, with the first detailed preview following shortly thereafter (CZIESLA & EICKHOFF, 1995), and at least a half a dozen other reports in the following years (e.g. CZIESLA & EICKHOFF, 1994; CZIESLA & EICKHOFF, 1996; CZIESLA ET AL., 1998; STREET ET AL., 2001; CZIESLA, 2012)

It has only now been possible, despite missing financial support, to evaluate the original excavation from "*Jühnsdorf 8*". A publication, including fundamental considerations to Mesolithic housing, fireplaces and tree holes, will follow this year (CZIESLA, IN PRINT). It was possible to discern, some tree-falls, similar to those described by Dürr and Gramsch, as well as a rectangular habitation feature in "*Area 1*" (directly near the Motorway). The habitation feature, with a length of 7.5 m and a width of about 4.5 m, can be interpreted as a "*longhouse*". It has "*clearance zones*", which can be interpreted as entrances, as well as a "*free zone*" with a measured diameter of approximately 1.5 m, and an "*invisible hearth*". The lithic assemblage of mostly elongated triangles is dated to the early Middle Mesolithic (late Boreal, between 8250 and 7250 cal BC). "*Area 2*" which lies approximately 135 m east of "*Area 1*" along the new agricultural path, delivered an intact hearth with a diameter of 1 m made of granite. The lithic assemblage is almost identical to the Middle Mesolithic microliths from "*Area 1*" with charcoal from the fireplace dating the hearth to 7599 ± 78 cal BC (Lab.-No. Poz-85332). (E.C.)

#### Workshop: How do we define the Mesolithic?

This session was followed by a workshop which has developed over the last years of this Mesolithic conference series and which is meant to be a more interactive part of the meeting. This workshop consisted of four short presentations by Annabell Zander, Sonja Grimm, Mikkel Sørensen and Birgit Gehlen on a common theme with time dedicated at the end of the workshop for questions and discussions. This year we decided to focus the workshop on an important theme: The definition of the Mesolithic and how we view this archaeological period. This theme was developed after the interesting discussions in the session "*Northwest Europe around 10,000 BP: What changes?*" at the U.I.S.P.P. Prehistoric Congress in Amiens last year. The workshop was chaired by Annabell Zander.

Zander was also the first presenter of this workshop exploring human responses to rapid climate change during the Pleistocene-Holocene transition in North-western Europe. 11,500 years ago an episode of intense climatic warming ended the last Ice Age and transformed the vegetation and fauna. The hunter-gatherers living in North-western Europe during this



transition were exposed to extreme fluctuations in the flora and fauna and therefore needed to adapt their hunting strategies as a response to the environmental changes. Despite the broadly undefined complex developments of cultural traditions at this interface, the arbitrary division between Palaeolithic – glacial archaeology and Mesolithic – post-glacial archaeology remains the status quo. In recent years several scholars have come to realise that the technological changes at the Pleistocene-Holocene interface are far more complex than previously thought (TERBERGER, BARTON & STREET, 2009; GROSS, 2014; ZANDER, 2016). As such the Palaeolithic-Mesolithic transition in North-western Europe is characterised by a variety of assemblages which seem to overlap in time. On the basis of an analytical survey of lithic artefacts from Final Palaeolithic and Early Mesolithic assemblages, in combination with an investigation of the faunal record, this PhD project questions this artificial division between Palaeolithic and Mesolithic while offering a broader European perspective on human adaptations to climate change. (A.Z.)

Next, Sonja Grimm discussed her ideas regarding a Mesolithic Prelude: A crescendo of changes at the end of the Pleistocene. According to Grimm, if the Mesolithic is considered a placeholder indicating a continuous foraging life style into the Holocene while in the Near East the Neolithic revolution has been on-going, the Final, Late, or Late Upper Palaeolithic in Europe can equally be considered as a wild card. These terms are used to describe groups living in the period from the onset of the Lateglacial Interstadial to the Holocene when the height of the Weichselian Glacial is already fading and/or to point out behavioural changes of Late Weichselian foraging groups that appear to reflect a very different way of life than the typical, i.e. Early Upper or Early and Mid-Upper Palaeolithic groups. Presumably, some of these changes were triggered by environmental changes and seem to anticipate Mesolithic lifeways. Therefore, the correlation of behavioural changes with climatic and environmental sub-periods does not seem to be entirely a coincidence. Yet, in Northern Europe some groups attributed to the Final Palaeolithic seem to continue their way of life into the Holocene raising the question: When does the Final Palaeolithic end and the Mesolithic begin? And what are the major differences and what did actually change and when did this happen? So

how many or what type of changes do we need to confidently distinguish different phases in this on-going process of change? What do we consider particularly relevant?

For answering this, we first have to ask ourselves: What do we want to express with the subdivision into different phases? What do we hope to identify? Therefore, different aspects for the subdivision of the Upper to Final Palaeolithic and to the Mesolithic are presented and compared in their appearance and chronological development to follow up the question whether the Final Palaeolithic is in fact the earliest Mesolithic or perhaps a Mesolithic prelude? (S.G.)

Mikkel Sørensen presented his perspective from Southern Scandinavia. He approached the definition of the North European Mesolithic as defined by the humanities, and not by changes in climatic proxies of the northern hemisphere. This means that the Mesolithic has to be understood as a regionally defined phenomenon and by the question: when do we see a change in our archaeological material that can evidence clearly societal or even ideological changes within the Holocene?

A definition of a “*Mesolithic*” in Southern Scandinavia could concern a hunter-gatherer society with an unprecedented intimate relation to the local landscapes and thereby a society that was able to annually sustain itself locally/regionally within the landscape. The archaeological analysis of a “*Mesolithic*” thus has to consider; intensity in relation to habitation sites, variation and complexity of tool inventories, mobility in relation to e.g. raw material use and not least changes in so-called “*art*” and ritual practice.

In Southern Scandinavia the earliest Holocene human evidence is identified in the Lundby Bog as series of ritual deposits of elk bones, yet these are generally without a certain cultural attribution. These early Holocene ritual events might be understood as made during an enculturation process by a highly mobile society in a “*new*” landscape. First with site assemblages dated from the beginning of the 9th millennium and onwards, such as Barmosen 1, Årup context 2 and Klosterlund we see assemblages that reflect the criteria mentioned above. It can therefore be argued that a Mesolithic way of living is first seen with the 9th millennium BC in southern Scandinavia, but further that we might see differences in this process from East to West. Consequent to this discussion it can finally be



**Fig. 2** The “Kaiserwagen” of the suspended railway in Wuppertal which is unique in the world  
(Photograph: ©WSW: Wuppertaler Stadtwerke).

suggested that the Long Blade phenomenon should be regarded as a last Palaeolithic phenomenon of probable early Holocene dating. (M.S.)

On the other hand, Birgit Gehlen gave an insight into the last foragers in Central Europe, thereby addressing the definition of the Mesolithic-Neolithic transition. According to Gehlen, it is still unclear to what extent the Mesolithic people contributed to the development of Neolithic societies and how this transformation happened. There might have been coexistence with intermarriage or interbreeding barriers, an intense cultural exchange with interactions, an additional symbiotic lifestyle, a coexistence in different cultivable and natural areas etc. Nevertheless, it seems clear that people with a late Mesolithic lithic tradition (trapezes with and without facial retouch, regular bladelets) still inhabited Central Europe until the emergence of Late Neolithic cultures around 4200 cal BC. In some regions, we can expect Mesolithic people even 1000 years later. It will be a future task to describe these cultural phenomena and discuss them in context

with the developments in Neolithic societies. (B.G.)

The main conclusion of this workshop was that cultural change does not necessarily align to climate change with Final Palaeolithic traditions extending into the Early Holocene in certain regions. This means that the Mesolithic must be understood as a regionally defined phenomenon.

After this workshop the guided tour through Wuppertal took place in the Historic “Kaiserwagen” of the suspended railway (**Fig. 2**). The suspended railway which was built in 1901 is the oldest elevated railway with hanging cars in the world and remains unique to this day. This was followed by a Conference Dinner in *Da Vinci Restaurant* near Wuppertal Zoo.

#### **Session 4: Subsistence and Mobility among Mesolithic hunter-gatherers**

On Saturday morning, the first session on subsistence and mobility among Mesolithic hunter-gatherers was chaired by Prof. Erik Brinch



Petersen. The first presenter was Svea Mahlstedt talking about mobility and orientation in Mesolithic North-western Germany. She argued when we think of Mesolithic hunter-gatherers a certain amount of mobility is assumed. But which traces do we have of transient behaviour and how can we find out more? Mahlstedt presented a somewhat eclectic survey for traces of Mesolithic mobility as well as for possibilities of orientation in the Mesolithic landscape. These included examples for bigger and smaller areas of activity as well as thoughts on the needs for transport. Some ideas from these examples were then applied to the Mesolithic in North-western Germany, where the size of Mesolithic sites is associated with their situation in the landscape. Accessibility and recurrence were discussed as matters for the intensity of site use. (S.M.)

The next talk by Elisabeth Noack centred on reconstructing the rationality of Mesolithic hunting. According to Noack, a reductive and deterministic view on past human life serves as the foundation for many narratives of human cultural evolution. This is most clearly expressed in Mesolithic narratives where *"the lost Ice Age paradise"*– paradigm is used as an argument for explaining diversity in food choices, flexibility in technology and a highly mobile system of settlement. But when an alternative notion of rationality is applied, which does not frame human behaviour in costs and benefits, how does our understanding of Mesolithic life change? How can the rationality of Mesolithic hunting decisions be reconstructed based on the behavioural skills of modern human beings? And what will we learn about our decision making today? (E.N.)

This talk was followed by research on socio-economic transformations of specialized foragers by Daniel Groß, Harald Lübke, John Meadows, Ulrich Schmölcke and Sönke Hartz. The project *„Socio-Economic Transformations of Specialized Foragers"* is part of the CRC 1266 *"Scales of Transformation. Human-Environmental Interaction in Prehistoric and Archaic Societies"*. Within this context different spheres of Mesolithic life in the southern Baltic region are addressed and compared to earlier and later societies. Against cultural and ecological backgrounds it is investigated when, why, and how different triggers and components affected Early and Mid-Holocene hunter gatherers and their impacts on them.

One focus of the project is laid upon social transformations, which can be traced in cultural and economic aspects. While comparative analyses of the material culture and settlement strategies provide insights into local and regional spatial organisation, tracing the hunting and gathering behaviour, raw material procurement or intra-regional mobility show aspects of land and environment usage. In comparison with environmental events like extreme climates or seasonal variations it can be contrasted if internal or external pressures led to socio-cultural changes.

Starting from a regional perspective in the ancient lake Duvensee region in south-eastern Schleswig-Holstein, the perspective will be widened during the course of the project and will integrate other well-investigated areas with good preservation conditions. By doing this, it will be possible to highlight similarities and differences in various regions during the Early and Mid-Mesolithic of the south-western Baltic Sea region over time and space. (D.G., H.L., J.M., U.S. & S.H.)

## Session 5: Mesolithic Deposition and Caching

The next session focused on Mesolithic deposition and caching and was chaired by Elisabeth Noack. The first paper in this session dealt with new results on the skull nests from Große Ofnet by Jörg Orschiedt, Daniela Hofmann and Rick Schulting. The Mesolithic site of Ofnet (Bavaria) has long courted controversy because of the deposition of at least 28 human skulls in two concentrations just within the cave entrance. The presence of traumata on some of the heads, which were cut from the body when still fleshed, have encouraged interpretations of a catastrophic mortality event, during which most or even all of a community was violently wiped out in the course of warfare or raiding. On the other hand, the vast quantities of shell and deer teeth deposited with the heads and the existence of similar (albeit much smaller) collections from around southern central Europe have led others to postulate a special funerary treatment. So far, it is difficult to evaluate these competing claims, as anthropological results were contradictory and the dating of the Ofnet skulls is not fully understood. The first radiocarbon dates at least resolved the dating issue in favour of the Late Mesolithic, but the considerable range obtained fuelled a second debate. Were the skulls deposited in a single event? This, together with the peri-mortem injuries present on many of the



skulls, would suggest a massacre. Alternatively, was this part of a regional mortuary rite given to certain members of the community, resulting in repeated deposition over some centuries? Here, the authors reported on the preliminary results of an ongoing project aimed at resolving the chronology of Ofnet through a series of new  $^{14}\text{C}$ -dates and a major revision of the trauma on the skulls. (J.O., D.H. & R.S.)

Mathias Bjørnevad emphasised the importance of Mesolithic caching in Europe as an under-recognised phenomenon. According to Bjørnevad, thus far, there have been few studies of Mesolithic caching or hoarding, which is in stark contrast to the research into similar practices in the Neolithic and Bronze Age. This paucity of research, especially comparative studies, has contributed to the belief that these deposits represent unique and unrelated events and are not part of a larger practice(s). In addition, this limited research has possibly led to fewer caches being identified due to limited awareness of how these caches can be recognised, recorded and interpreted. As part of an ongoing PhD project more than 120 Mesolithic caches across Europe were analysed at various scales. This multi-scalar approach included the biographical analysis of individual deposits, a focused study of caches in Southern Scandinavia as well as larger comparative study of Mesolithic caching elsewhere in Europe. This multi-scalar approach allowed the identification of both regional and macro-regional patterning, individualisation, as well as distinct temporal and spatial variability. In this paper, Bjørnevad presented some of the current results of this analysis, focussing on southern Scandinavian deposits, and briefly discussing how these deposits can be interpreted. (M.B.)

#### Session 6: Regional Mesolithic studies

Moving on from the international character of the previous sessions, the next set of papers focused on regional Mesolithic studies in Germany and was chaired by Dr. Julia Goldhammer. First, Felicitas Faasch presented her ongoing research concerning selected Mesolithic surface sites in Mecklenburg-Vorpommern. Since an overwhelming number of Mesolithic sites in Northern Europe is only known through lithic surface finds, it seems necessary to develop a methodology to analyse them which includes

aspects like the topography of their surroundings or the history of research. This ongoing PhD-project aims to provide a new understanding of the Mesolithic in the county of Mecklenburg-Vorpommern by analysing the flint assemblages of selected inland surface sites.

The starting point is the entirety of Mesolithic finds in the study area, which is defined as the macro region for this study. On this level the general distribution of sites and the reasons for clusters and empty spaces are evaluated. For a closer look at the topography, especially water and soils, two core regions were selected. Both are situated on the Mecklenburg Lake Plateau. Within the core regions a further subdivision in micro regions allows in-depth examinations of the history of research for every site. Furthermore, sites with a high potential for dating can be selected for a detailed analysis of the lithic finds.

In comparison with extensively studied wetland sites in Northern Europe it is possible to make assertions concerning the dating and function of sites. Additionally, places with a high probability of a good preservation of organic materials can be identified which enables further specific studies. (F.F.)

Thomas Richter presented new results from the sites Sielenbach, Weinberg and Neueching-Fuxleben in South Bavaria (Abstract translated by B. Gehlen). In his presentation, Richter talked about two new Mesolithic sites from southern Bavaria. Both locations are surface sites from which volunteer archaeologists collected the artefacts.

The site of Neueching-Fuxleben, district of Erding, was discovered by the members of the "Archäologischen Verein Erding, AVE e.V." during field surveys in 2015. Since then several artefacts have been recovered from the site. To date more than 1000 lithic artefacts have been collected. 19 microliths can be securely dated into the Mesolithic period. Besides Mesolithic finds, there are some other finds dating to the Late Neolithic or the Early Bronze Age.

Seven microliths are truncated micro-points which are the most frequent microlith forms found at the site. Additionally, there are base-retouched micro-point, two triangles, one backed bladelet, one trapeze on an irregular bladelet and several other types which occur as single finds. Overall, the microlith-types point to the Boreal period (Beuronien B and C after Wolfgang Taute). One single Mesolithic concentration (measuring 4 ha) has been identified by recording the coordinates

of individual finds.

The site of Sielenbach-Weinberg, district of Friedberg, had already been discovered by Siegfried Weber during the 1960s. During the following years, and more intensively since 1982, Weber and Dr. Hubert Raab have recovered several finds from the sites every year. In sum, more than 3000 lithic artefacts have been collected to date. 64 of them can be defined as tools, 67 as cores, and 69 as microliths. Since the Mesolithic material was found mixed up with Late Neolithic or Early Bronze age finds (at least 13 tools, one arrowhead from the Late Neolithic or the Early Bronze Age and several polished artefacts), the only finds which can be safely dated into the Mesolithic are the microliths.

The most frequent microlith-type is the micro-point with dorsal and ventral basal retouch. Additionally, there are segments, different types of triangles, and trapezes made on irregular bladelets. This assemblage can be dated to the Boreal period as well (Beuronien B and C after Taute). The very small triangular microliths point to a cultural connection with the late Sauveterriano of Northern Italy. Of special interest are two microliths which are typical of the North Italian Late Mesolithic (Castelnoviano) and are so far unknown in the Mesolithic of Southern Germany. (T.R.)

The next presentation by Sönke Hartz and Mirjam Briel introduced new results from rescue excavations of the Late Mesolithic site Satrup LA2 (Abstract translated by B. Gehlen).

Since the 1930s the Satrupholmer Moor is known as one of the most important landscapes with Stone Age sites in Schleswig-Holstein (Northern Germany). H. Schwabedissen conducted large excavations during the 1950s in this area. One of the most striking sites is located close to the village of Bondebrück at the northern shore of the bog (site Satrup LA 2). Besides large amounts of flint artefacts, faunal remains and antler tools have been recovered during recent excavations in 2010, 2011, and 2016. In sum, the finds point to a late Mesolithic (Kongemose) as well as to a final Mesolithic (Ertebølle) occupation of the site.

In the course of rescue-excavations in 2016, an undisturbed layer from the Kongemose period was uncovered in the area of the former shoreline. This layer contained a large amount of flint artefacts, animal bones and antler remains and was partly covered by an Ertebølle-horizon. Fragments from three typical vessels with pointed bottom were excavated. In general the

pottery found in this context shows the typical U-shaped bead-technique. The good preservation of the layers and organic finds are promising for further investigations into the subsistence of the Stone Age-settlers and the absolute dating of the archaeological remains. (S.H. & M.B.)

Benjamin Spies presented some of his thoughts on the Mesolithic landscape of Main-Franconia. According to Spies similar to most regions in the central European low mountain region, Main-Franconia yields numerous Mesolithic surface finds. So far, this huge research potential remains unused, even unknown to the scientific community, as most of these finds were never recorded properly, let alone analysed or published. At times, the finds were not even recognized as Mesolithic.

A PhD-project at the University of Erlangen currently strives to seek out these sites and record their most important finds in order to establish a basis for further studies on the chronology, the resource management and Mesolithic use of landscape in this region. Even if the collation of data is still in progress, some first tendencies and thoughts on the Mesolithic in Main-Franconia were presented and discussed. (B.S.)

## **Session 7: Late Mesolithic and Early Neolithic research and public talk**

The final session of the conference focused on Late Mesolithic and Early Neolithic themes and was chaired by Dr. Erwin Czesla. Julia Goldhammer, Sönke Hartz and Steffen Wolters gave an insight into a new project funded by the DFG (*Deutsche Forschungsgemeinschaft*) on subsistence strategies, settlement structure, and communication in the Terminal Mesolithic in Kiel Bay. Submarine archaeological investigations in the outer Kiel Fjord revealed organogenic sediments with finds from the pre-pottery Ertebølle phase. These records lie in 6 m water depth in an area of fallen oak trunks approx. 900 m off the Stohl cliff line. First test excavations in 2012 gave proof of a substantial assemblage and excellent preservation conditions. In particular, organic finds were preserved, including human remains. Typological and absolute chronological dating suggests that hunter-gatherers used the site between 5390 and 4750 calBC. Therefore the occupation of the site belongs to the pre-pottery period of the Ertebølle Culture (Jäckelberg and Rosenfelde phase). For

that time, only few records of *in-situ* preserved finds are known at the North German Baltic Sea coast. The settlement under investigation was located on the shore of a lagoon where hunters, gatherers and fishermen produced tools made of flint, bone, antler and wood. They exploited their marine and terrestrial environment for food, processed their diet and furthermore used the place for waste disposal. A submarine survey carried out 2014 in an area of 1 ha showed that organic layers containing finds are preserved not only in the sector of the test excavation but also in the surroundings. In addition to that, divers reported more scattered finds and fallen tree trunks as well as exposed organic layers. The scientific significance of the find region Strande lies in its specific period of time which precedes the cultural development of ceramic use, the intensification of contact with fully developed Neolithic cultures, the import of domesticated livestock and finally the complete Neolithic way of life. Next to unsolved chronological research questions there is also a spatial research gap, as only a few late Mesolithic finds are known from the Bay of Kiel. The excellent preservation conditions of the Strande LA 163 site provide great potential for investigating the pre-pottery phase of the Terminal Mesolithic in the micro region of the western *Kieler Außenförde*. A comparison of the cultural remains allows the reconstruction of contact networks and communication routes to adjacent regions. Moreover, the reconstruction of small-scale landscape development enables the locating of the exact settlement positions in the surrounding of the waste disposal zone. Years of experience in diving archaeology in Denmark and Mecklenburg-Vorpommern give proof that only a systematic search on the seabed can uncover previously unknown find scatters which are otherwise hidden below sand or silt. Its potential can be unlocked using modern submarine excavation techniques which can reveal information on subsistence, settlement structure and settlement organisation of the foragers. (J.G., S.H. & S.W.)

Next, Ann-Katrin Meyer presented a survey on the inland Ertebølle in Schleswig-Holstein. She gave an overview of known inland Ertebølle sites in Schleswig-Holstein and presented the flint and ceramic assemblages of the sites Schlamersdorf LA 15 (Kr. Stormarn) and Kayhude LA 08 (Kr. Segeberg) in more detail. Furthermore, two west coast sites, Aventoft LA 01 and Bargum LA 07 (Kr. Nordfriesland), were introduced for the first

time as evidence of a western Final Mesolithic settlement.

In addition to this, the possible presence of more, previously unknown, sites in the interior and western regions of Schleswig-Holstein were discussed. The presentation aimed to define the characteristics of inland and west coast Ertebølle sites in comparison to the better known Baltic Ertebølle settlements. Most of the sites cluster around wetland areas and so far it seems as if the majority are mixed inventories (Older, Late and Final Mesolithic finds) lacking a clear stratigraphic context due to river and lake activities. However, assemblages dominated by blades and blade tools such as blade scrapers and end-retouched blades, as well as transverse-arrowheads in variable forms, are characteristic of inland and also west coast Ertebølle assemblages. The reduced frequency or even complete absence of core tools and axes is apparent as well. The composition of the mentioned flint assemblages is thought to be partly due to raw material availability and partly due to a mobile lifestyle with a main focus on hunting activities. (A.-K.M.)

Maha Ismail-Weber presented the current state of research on the Late Mesolithic and Neolithic in Brandenburg. According to Ismail-Weber, the spread of the "*Neolithic way of life*" is often associated with the transformation of the natural environment into a cultural landscape. Concurrently the social system has changed which is apparent in far-stretching networks. These networks connected Neolithic and Late Mesolithic groups as well (cf. HEINEN, 2010). Neolithic adzes and single pottery sherds are known from Late Mesolithic sites, but these finds reveal only occasional contacts (HEINEN & BAALES, 2015, 38; HARTZ ET AL., 2011, 54; KLASSEN, 2004, 59). The model of parallel forager and farmer societies is the current idea concerning the cultural system during the 4th millennium in Westphalia and the Baltic region (BOLLONGINO ET AL., 2013; ORSCHIEDT ET AL., 2014; BRAMANTI ET AL., 2009, 137; LÜBKE ET AL., 2007). This assumed social system cannot be assigned to the area of Brandenburg without further research. The paper presented the state of the art for the research into the Early Neolithic and Late Mesolithic in Brandenburg focusing on the single finds of adzes and their presumed cultural origin. (M.I.-W. translated by B. Gehlen)





**Fig. 3** In front of the Blätterhöhle in Hagen with Jörg Orschiedt (right) and Wolfgang Heuschen (left) who both gave the guided tour of the cave site. Special "cave suits" and a helmet are required to enter the cave (Photograph: A. Baus).

**Fig. 4** From the right: Harry Robson, Mikkel Sørensen, Theis Jensen and Jörg Orschiedt about to enter the cave (Photograph: A. Baus).





**Fig. 5** Guided tour through the Monrepos Archaeological Research Centre by Martin Street (Photograph: A. Baus).



This session was followed by a short presentation by Marcel Niekus, Luc Amkreutz and Bjørn Smit about a few exceptional Stone Age finds from the Dutch North Sea. Over the past few years the number of archaeological finds originating from the North Sea has increased dramatically. This is mainly the result of large scale infrastructural works such as 'Maasvlakte 2', an extension of the port at Rotterdam, and the 'Zandmotor' (Sand Engine) at the coast near The Hague. Due to sand replenishment hundreds of flint artefacts, animal bones with cutmarks, worked bone and antler, bone points, and even human remains (see VAN DER PLICHT ET AL., 2016 for a recent publication) are deposited on beaches. In this brief presentation a few, mostly recent, important discoveries from 'Doggerland' were presented. Analyses on these and other finds are ongoing as part of a larger project by the newly established Doggerland Research Group (DRG). (M.N., L.A. & B.S.)

After these sessions, Dr. Erich Claßen and Priv. Doz. Dr. Jörg Orschiedt held a public talk on the region's Stone Age points of interest, including the Blätterhöhle, in preparation of the excursion on Sunday. This talk was followed by a conference dinner in Café Luise in Hardt Park.

### Excursion

On a sunny Sunday morning, the excursion started at the Blätterhöhle in the nearby city of Hagen. This famous Mesolithic and Neolithic cave site yielded the oldest human fossils in Westphalia and reveals fascinating information on the Mesolithic-Neolithic transition in this region (ORSCHIEDT ET AL., 2012; ORSCHIEDT ET AL., 2014). Jörg Orschiedt and Wolfgang Heuschen offered a guided tour of the area of excavation in front of the cave entrance (Fig. 3). Three small groups were then allowed to enter the cave itself, where excavations have been ongoing since 2006 (Fig. 4). The cave entrance is very narrow and visitors need to crawl down to the site of excavation along a narrow tunnel.

At around noon, the excursion continued toward the Monrepos Archaeological Research Centre and Museum for Human Behavioural Evolution in Neuwied. Here, Elisabeth Noack and Martin Street offered a guided tour through the Archaeological Research Centre and the Museum's permanent exhibition "*Understanding HUMANity*" which was newly designed in 2014 (Fig. 5-6). On a journey of discovery to yourself "*Understanding HUMANity*" describes the most important stages of our behavioural development with moving imagery. Visitors can trace the roots of their behaviour and come closer to their own identity. This exhibition offers a fascinating perspective on the division between Palaeolithic



**Fig. 6** Guided tour through the Museum for Human Behavioural Evolution by Elisabeth Noack (centre left) (Photograph: A. Baus).

and Mesolithic, again reflecting the theme of the workshop on Friday.

The excursion ended at around 4 pm on Sunday, when the attendees left Monrepos for their various destinations. A minibus provided by the University of Cologne took the international guests back to the airports in Cologne and Düsseldorf.

## Outlook

The Mesolithic conference in Wuppertal was a success with over 70 attendees from 8 different countries – Germany, the Benelux Countries, Austria, Czech Republic, Britain, and Denmark (**Fig. 7**). The international character of this meeting was reflected in the wide variety of themes presented during the conference. The various presentations inspired several interesting discussions, specifically revolving around how humans responded to climate change in North-western Europe, including during the Palaeolithic-Mesolithic transition and the transformation from hunter-gatherers to farmers. These different themes will be explored in more detail in the conference proceedings, which will be published in the summer of 2018.

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Fig. 7 Another Group photograph of the attendees in front of the venue (Photograph: M. Koke).

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## Authors

Annabell Zander M.A.  
University of York  
az661@york.ac.uk  
<http://orcid.org/0000-0002-2817-0242>

Dr. Birgit Gehlen  
Universität zu Köln  
bgehlen1@uni-koeln.de  
<http://orcid.org/0000-0003-1345-8072>

Dr. Luc Amkreutz  
National Museum of Antiquities, Leiden  
l.amkreutz@rmo.nl

Prof. Søren Andersen  
Moesgård Museum  
sha@moesgaardmuseum.dk

Dr. Chantal Conneller  
University of Manchester  
chantal.conneller@manchester.ac.uk

Dr. Erwin Czesla  
Martin Wurzel Archäologie und Umwelttechnik GmbH  
wurzel-archaeologie@t-online.de

Michaela Divišová, University of South Bohemia,  
mdivisova@seznam.cz

Prof. Dr. Eileen Eckmeier  
Universität München  
e.eckmeier@geographie.uni-muenchen.de

Jan Eigner, Charles University, Prague,  
Eigner.istvan@seznam.cz

Prof. Berit Valentin Eriksen; Dr. Harald Lübke; Dr. John Meadows; Dr. Ulrich Schmölcke & Dr. Mara-Julia Weber  
Zentrum für Baltische und Skandinavische Archäologie  
berit.eriksen@schloss-gottorf.de

Felicitas Faasch, M.A.  
Universität Hamburg  
felicitas.faasch@web.de

Birgit Fischer, M.A., Dr. Christiane Krahn & Dr. Harald Stäuble, Landesamt für Archäologie, Sachsen  
Birgit.Fischer@lfa.sachsen.de; Christiane.Krahn@lfa.sachsen.de; Harald.Stauble@lfa.sachsen.de

Prof. Charles French  
University of Cambridge  
caif2@cam.ac.uk

Roderick Geerts, M.A.  
ADC ArcheoProjecten  
r.geerts@archeologie.nl

Klaus Gerken, M.A.  
Gerken Archäologie  
klaus@gerken-archaeologie.de

Dr. Julia Goldhammer  
Bohusläns Museum  
julia.goldhammer@gmx.net

Dr. Sonja Grimm  
Zentrum für Baltische und Skandinavische Archäologie  
sonja.grimm@schloss-gottorf.de

Dr. Daniel Groß  
Zentrum für Baltische und Skandinavische Archäologie  
daniel.gross@schloss-gottorf.de

Dr. Sönke Hartz & Dr. Mirjam Briel  
Stiftung Schleswig-Holsteinische Landesmuseen  
soenke.hartz@schloss-gottorf.de

Dr. Martin Heinen  
Artemus GmbH  
heinen@artemus-gmbh.de

Prof. Carl Heron  
The British Museum  
cheron@britishmuseum.org

Jun.-Prof. Daniela Hofmann  
Universität Hamburg  
Daniela.Hofmann@uni-hamburg.de

Maha Ismail-Weber, M.A.  
Brandenburgisches Landesamt  
mismailweber@googlemail.com

Mathias Bjørnevad, M.A.  
Aarhus University  
mathias.jensen@cas.au.dk



Theis Jensen, M.A.  
University of York  
theis.jensen@york.ac.uk

Prof. Jacek Kabaciński & Prof. Agnieszka Czekaj-Zastawny, Polish Academy of Sciences  
jacek.kabacinski@interia.pl  
aczekajzastawny@gmail.com

Andreas Kotula, M.A.  
Niedersächsisches Landesamt für Denkmalpflege  
andreas.kotula@posteo.de

Sascha Krüger, M.A., Dipl. Ing. Thomas Poelmann & Markus Wild, M.A.  
Zentrum für Baltische und Skandinavische Archäologie  
sascha.krueger@schloss-gottorf.de; thomas.poelmann@gmx.de; markus.wild@schloss-gottorf.de

Dr. Svea Mahlstedt  
Niedersächsisches Institut für historische Küstenforschung  
svea.mahlstedt@web.de

Ann-Katrin Meyer, M.A.  
Universität Hamburg  
akmeyer88@aol.com

Prof. Nicky Milner; Prof. Oliver Craig; Dr. Aimée Little; Dr. Alexandre Lucquin; Becky Knight, M.A.; Shannon Croft, M.A. & Bethany Nash  
University of York  
nicky.milner@york.ac.uk

Dr. Andy Needham  
University of York  
andrew.needham@york.ac.uk

Marcel Niekus, M.A.  
Stichting STONE/Foundation for Stone Age research in the Netherlands  
marcelniekus@gmail.com

Elisabeth Noack, M.A.  
Monrepos Archäologisches Forschungszentrum und Museum für menschliche Verhaltensevolution  
noack@rgzm.de

Dr. Ester Oras  
University of Tartu  
ester.oras@ut.ee

Priv.Do. Jörg Orschiedt  
Curt-Engelhorn-Zentrum Archäometrie GmbH & Freie Universität Berlin  
jorschiedt@zedat.fu-berlin.de

Prof. Erik Brinch Petersen  
University of Copenhagen  
ebp@hum.ku.dk

Diederik Pomstra  
Independent  
d.r.pomstra@arch.leidenuniv.nl

Caroline Posch, M.A.  
Universität Innsbruck  
caroline.posch@uibk.ac.at

Dr. Stefan Pratsch  
Landkreis Teltow-Fläming  
Stefan.Pratsch@teltow-flaeming.de

Filip Prekop, National Heritage Institute  
prekop.filip@npu.cz

Milan Řezáč, Independent  
rezac\_m@volny.cz

Dr. Thomas Richter  
Kreisarchäologie Landshut  
richter.thomas2@gmx.net

Dr. Harry Robson  
University of York  
harry.robson@york.ac.uk

Dr. Georg Roth  
Freie Universität Berlin  
georg.roth@fu-berlin.de

Charlotte Rowley, M.A.  
University of York  
ccar500@york.ac.uk

Nele Schneid, M.A.  
Universität zu Köln  
neleschneid@googlemail.com

Dr. Werner Schön  
wernerm.schoen@gmx.de

Prof. Rick Schulting  
University of Oxford  
rick.schulting@arch.ox.ac.uk

Dr. Bjørn Smit  
Cultural Heritage Agency of the Netherlands  
b.smit@cultureelerfgoed.nl

Prof. Mikkel Sørensen  
University of Copenhagen  
miks@hum.ku.dk

Benjamin Spies, M.Sc.  
Universität Erlangen  
benjamin.spies@fau.de

Dr. Val Steele  
University of Bradford  
V.J.Steele1@bradford.ac.uk

Dr. Barry Taylor & Dr. Amy Gray Jones  
University of Chester  
b.taylor@chester.ac.uk; a.grayjones@chester.ac.uk

Laura Thielen, M.A.  
Universität Hamburg  
Laura.Thielen@uni-hamburg.de

Dr. Steffen Wolters  
Niedersächsisches Institut für historische Küstenforschung, Wilhelmshaven  
wolters@nihk.de